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Paper No. 34

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

FEB 25 2004

Ex parte ALLAN S. HODGSON and JESSICA M. ARONOFF

DIRECTOR OFFICE  
TECHNOLOGY CENTER 2000

Appeal No. 2003-1856  
Application No. 08/879,322

HEARD: FEBRUARY 17, 2004

**MAILED**

FEB 23 2004

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

Before KRASS, BARRETT and DIXON, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-10 and 12-20.

The invention is directed to the measurement of fruit particles in food products. In particular, rather than the conventional approach of washing fruit particles in a matrix on a screen to remove a starch and/or sugar matrix so that the fruit retained on the screen could be weighed and analyzed, the instant

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invention uses camera computer imaging without the need to remove the starch and/or sugar matrix.

Independent claim 1 is representative of the invention and is reproduced as follows:

1. Apparatus [for the measurement of fruit particles in a matrix without removing the fruit particles from this matrix] comprising:

a substantially opaque cabinet;

a sample tray [adapted to receive a fruit matrix of fruit particles which are within a matrix selected from the group consisting of a sugar matrix, a starch matrix or a sugar and starch matrix, said fruit matrix being of the kind used in fruit fillings, toppings, dairy products or cooked food products];

a camera in the upper portion of said cabinet for taking an image of the fruit particles [while they remain within the fruit matrix];

a light source in said cabinet; and

a computer with image analyzing software which analyzes said image of the fruit particles [in order to measure the fruit particles without having removed them from the fruit matrix].

The examiner relies on the following references:

Wilkinson et al. (Wilkinson)	4,844,937	Jul. 04, 1989
Sistler et al. (Sistler)	4,975,863	Dec. 04, 1990
Bolle et al. (Bolle)	5,546,475	Aug. 13, 1996
Queisser et al. (Queisser)	5,818,953	Oct. 06, 1998 (filed Apr. 17, 1996)
Heck et al. (Heck)	5,845,002	Dec. 01, 1998 (filed Nov. 03, 1994)

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Claims 1-10 and 12-20 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Queisser in view of Wilkinson with regard to claims 1, 3-6 and 12, adding Bolle to this combination with regard to claims 2, 7-10, 13, 14, 17 and 18, while adding Sistler to the original combination with regard to claims 15 and 19. With regard to claims 16 and 20, the examiner relies on a combination of all four of these references.

Claims 1-10 and 12-20 stand further rejected under 35 U.S.C. § 103 as unpatentable over Heck, Wilkinson, and Sistler.

Reference is made to the briefs and answer for the respective positions of appellants and the examiner.

OPINION

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason much stem from some teachings,

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suggestions or implications in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1040, 228 USPQ 685, 687 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 146-147 (CCPA 1976). Only those arguments actually made by appellant have been considered in this decision. Arguments which appellant could have made but chose

not to make in the brief have not been considered and are deemed to be waived [see 37 CFR 1.192 (a)].

With regard to independent claim 1, the examiner points to Queisser for a teaching of a substantially opaque cabinet, in Figure 1, described at column 3, lines 63-67, and at column 4, lines 1-3. The claimed sample tray is said to be taught by Queisser in Figure 1, and column 5, lines 34-41, particularly item 56. The claimed camera is identified in Figure 1 and column 4, lines 14-16, particularly item 22. As for the claimed light source, the examiner points to Figure 1, column 4, lines 21-22, particularly item 20. The claimed computer with image analyzing software is identified by the examiner by pointing to Figure 2 of Queisser, and at column 4, lines 27-67, and column 5, lines 1-11, particularly computer system 14.

The examiner notes that the fruit particles in Queisser are not in a sugar matrix, a starch matrix or a sugar and starch matrix. However, the examiner turns to Wilkinson for a teaching of measuring fruit particles in a matrix without removing the fruit particles from the matrix. In particular, the examiner points to Figures 2B-2C, examples 1-3, column 5, lines 48-56, and column 11, lines 6-36, of Wilkinson for a teaching of a uniformity of a gelatinized starch matrix.

The examiner concludes that it would have been obvious to modify Queisser in accordance with the teachings of Wilkinson "to analyze the image of fruit particles within a matrix selected from a starch matrix or a sugar matrix or a sugar and starch matrix, wherein the fruit matrix being of the kind used in fruit fillings, toppings, dairy products or cooked food products because it will expand the versatility of the measurement of the food particles and will encompass the inspection of a large variety of the products in food industry by merely implementing the conventional image processing" (answer-pages 4-5).

For their part, appellants contend that none of the applied references discloses the camera computer imaging of fruit particles, especially of fruit particles within a sugar and/or starch matrix of the type claimed. While Queisser is directed to computer imaging of french fries which are methodically and systematically lined up in the shaped grooves 58 in a sample tray, appellants contend that there is absolutely no disclosure in Queisser of analyzing a fruit matrix of fruit particles, that such fruit or particles are in a starch and/or sugar matrix, or that the grooved sample tray is adapted to receive a fruit matrix.

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We find that neither Queisser nor Wilkinson describes or suggests any apparatus or process for measuring "fruit particles," and especially fruit particles "within a matrix selected from the group consisting of a sugar matrix, a starch matrix or a sugar and starch matrix," as claimed. As such, the combination of Queisser and Wilkinson could not have suggested the instant claimed invention to the artisan, within the meaning of 35 U.S.C. § 103.

The examiner uses a very broad definition of "fruit" to include "a product of plant growth (as grain, vegetable, or cotton)" (answer-page 18). Somehow, the examiner applies the definition to the french fries, disclosed by Queisser, and concludes that Queisser discloses the measurement of fruit particles.

We agree with appellants that, in view of the instant disclosure and the claimed limitation of the fruit being in a matrix "of the kind used in fruit fillings, toppings, dairy products, or cooked fruit products," it is more reasonable to accept the Webster's New World Dictionary definition of "2. A sweet and edible plant structure, consisting of a fruit (sense 5) usually eaten raw, or as a dessert" or "5...The mature ovary of a

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flowering plant along with its contents, as the whole peach, pea pod, etc." (Reply brief-page 3).

As such, the french fried potatoes being inspected for color in Queisser are "tubers" and not "fruit," as claimed.

The examiner further contends that the type of food being analyzed is a mere "design choice" (answer-page 19) since the instant specification discloses no definite image analysis specific to measurement of fruit particles within a starch and/or sugar matrix. Moreover, the examiner contends that the type of food being inspected, and whether or not it is within a starch and/or sugar matrix is not critical to the operation of the inspection or measurement system because the camera and the computer will operate as intended even if the food product is not within a starch and/or sugar matrix.

Again, we disagree with the examiner. As convincingly pointed out by appellants, the camera and computer may very well be operative with a food product that is not in a sugar and/or starch matrix, but that is not the claimed invention. As argued by appellants, their invention is "the discovery that it can be used in the presence of such matrix" (reply brief-page 8).

Moreover, the instant specification does explicitly discuss, at page 4, last paragraph to page 5, first full paragraph, how

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the artisan is to employ the imaging system and computer analysis to analyze fruit particles in a sugar and/or starch matrix without removing the particles from the matrix. Even specific software, i.e., Global Image 3.0 from Data Translation Inc., is disclosed. Accordingly, the examiner is mistaken when arguing that the instant specification discloses no definite image analysis specific to measurement of fruit particles within a starch and/or sugar matrix.

We would also point out that, to whatever extent it may be considered that Queisser discloses analysis of a fruit product, Quiesser appears interested only in analyzing the food products for color variations and not for analyzing the food products without removing them from a fruit matrix. Even the examiner recognized that no fruit within a sugar and/or starch matrix was suggested by Queisser and so the examiner turned to Wilkinson for a teaching of a starch matrix. It is true that Wilkinson teaches a starch matrix, but the whole point of Wilkinson is to image that starch matrix itself, and not to image fruit particles, or anything else, while avoiding the matrix, but without removing the fruit particles from the matrix.

Because Queisser lacks any teaching of fruit particles in a sugar and/or starch matrix and the starch matrix taught by

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Wilkinson is not one involving fruit therein nor is anything within the starch matrix itself of interest for imaging, it is difficult to see how the artisan, viewing these two teachings, would come away with a suggestion for measuring fruit particles in a sugar and/or starch matrix without removing the fruit particles from this matrix.

As such, we find that no prima facie case of obviousness has been established with regard to rejecting claims 1, 3-6 and 12 under 35 U.S.C. § 103 over Queisser and Wilkinson.

Because Bolle was introduced only for a teaching of a sample tray with a light transmitting bottom and Sistler was introduced for its teaching of placing a sample tray spatially between an illuminating section and a capturing location, neither reference providing for the deficiency of Queisser and Wilkinson, we also will not sustain the rejection of claims 2, 7-10 and 13-20 under 35 U.S.C. § 103 over various combinations of Queisser, Wilkinson, Bolle and Sistler.

We turn, now, to the rejection of claims 1-10 and 12-20 under 35 U.S.C. § 103 as unpatentable over Heck in view of Wilkinson and Sistler.

Clearly, Heck is directed to analyzing fruit, but it analyzes topographic surface features of fruit for classification

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as to coarseness or pebbliness, puff and crease, ridge and valley, cuts, punctures, scrapes and splits, clear rot or sour rot of the peel. Clearly then, Heck is interested in analyzing the whole fruit and not the fruit particles, and especially in fruit particles within a sugar and/or starch matrix, as specified in the instant claims.

The examiner again tries to combine the primary reference with Wilkinson for the teaching of a starch matrix but, for the reasons supra, we do not find that the imaging of a starch matrix itself, as in Wilkinson, would have led the artisan to employ that teaching, in combination with Heck's analysis of a whole fruit peel, to result in the measurement of fruit particles in a sugar and/or starch matrix, without having to remove the fruit particles from the matrix, as required by the instant claims. Sistler, applied by the examiner for its teaching of specific tray characteristics, does not remedy the deficiencies of the Heck/Wilkinson combination.

While the briefs and answer mention and argue the adequacy of declarations under 37 CFR 1.131, filed May 23, 2000 and February 13, 2001, for antedating the Queisser reference, we need not consider the declarations because, in our view, the examiner has not presented a prima facie case of obviousness with regard

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to the instant claimed subject matter even if Queisser is a viable reference.

Accordingly, we will not sustain the rejection of claims 1-10 and 12-20 under 35 U.S.C. § 103.

The examiner's decision is reversed.

REVERSED

*Errol A. Krass*  
ERROL A. KRASS )  
Administrative Patent Judge )  
 )  
 )  
*Lee E. Barrett*  
LEE E. BARRETT ) BOARD OF PATENT  
Administrative Patent Judge ) APPEALS AND  
 ) INTERFERENCES  
*Joseph L. Dixon*  
JOSEPH L. DIXON )  
Administrative Patent Judge )

EK/RK

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RAYMOND M. MEHLET  
COOK, ALEX, MCFARRON, MANZO,  
CUMMINGS & MEHLER  
200 W. ADAMS, SUITE 2850  
CHICAGO, IL 60606